

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A mobile communication system composed of a home agent, a mobile node, and one or more correspondent nodes,

wherein said mobile node comprises:

means for storing a preassigned representative home address, one or more preassigned subsidiary home addresses, and a care-of address temporarily assigned in a network in which the mobile node is currently present; and

means for making a registration request for joint information which relates the representative home address to all subsidiary home addresses and the care-of address to said home agent, each time the mobile node moves to other network, and is assigned a new care-of address, and

wherein said home agent comprises:

means for receiving the registration request for said joint information, and if a packet destined for the representative address or any of the subsidiary addresses arrives from any correspondent node, retrieving the joint information including the representative home address or the subsidiary home address, from a table in which the joint information is registered, and transferring the packet to the care-of address corresponding to the address for which the packet is destined; and

a plurality of mobile network nodes being located under said mobile node, the plurality of mobile network nodes constituting a local network with said mobile node as a router,

wherein said mobile node further comprises:

means for assigning the subsidiary home addresses to the mobile network nodes, and if a packet destined for the subsidiary home address assigned to the mobile network nodes arrives, transferring the packet to the corresponding mobile network node,

whereby said mobile node performs location registration for the mobile network nodes in the local network managed by said mobile node by proxy, and transfers the packet destined for the mobile network node.

2. – 4. (Canceled)

5. (Previously Presented) The mobile communication system according to claim 1,

wherein, if a new mobile network node is added within the local network, and the mobile network node requests an assignment of an address to the mobile node, said mobile node comprises:

means for assigning any unregistered subsidiary home address to the mobile network node, and requesting additional registration of this subsidiary home address to the home agent;
and

if the mobile network node is deleted from within the local network, and the mobile network node notifies the mobile node of returning the subsidiary home address,

means for requesting deregistration of this subsidiary home address,

whereby the number of registration of the subsidiary home addresses owned by the mobile node is dynamically increased or decreased according to the added or deleted mobile network nodes.

6. (Previously Presented) The mobile communication system according to claim 1,

wherein, if a new mobile network node is added within the local network managed by the mobile node, and the mobile network node requests an assignment of an address to the mobile node, said mobile node comprises:

means for acquiring a new subsidiary home address from the home agent, and assigning this to the mobile network node; and

if the mobile network node is deleted from within the local network managed by the mobile node, and the mobile network node notifies the mobile node of returning the subsidiary home address, the mobile node comprises:

means for returning the subsidiary home address to the home agent,

whereby the number of the subsidiary home addresses owned by the mobile node is dynamically increased or decreased according to the added or deleted mobile network nodes.

7. – 10. (Canceled)

11. (Previously Presented) A mobile node in a mobile communication system composed of a home agent, the mobile node, and one or more correspondent nodes, the mobile node comprising:

means for storing a preassigned representative home address, one or more preassigned subsidiary home addresses, and a care-of address temporarily assigned in a network in which the mobile node is currently present;

means for making a registration request for joint information which relates the representative home address to all subsidiary home addresses and the care-of address to said home agent, each time the mobile node moves to other network, and is assigned a new care-of address; and

means for assigning any subsidiary home address to a plurality of the mobile network nodes under the mobile node, and if a packet destined for the subsidiary home address assigned to the mobile network nodes arrives, transferring the packet to the corresponding mobile network node,

whereby the mobile node performs location registration for the mobile network nodes in the local network managed by the mobile node by proxy, and transfers the packet destined for the mobile network node.

12. (Previously Presented) The mobile node according to claim 11, comprising:

if a new mobile network node is added within the local network, and the mobile network node requests an assignment of an address,

means for assigning any unregistered subsidiary home address to the mobile network node, and requesting additional registration of the subsidiary home address to the home agent; and

if the mobile network node is deleted from within the local network, and the mobile network node notifies returning the subsidiary home address,

means for requesting deregistration of the subsidiary home address,

whereby the number of registration of the subsidiary home addresses owned by the mobile node is dynamically increased or decreased according to the added or deleted mobile network nodes.

13. (Previously Presented) The mobile node according to claim 11, comprising:

if a new mobile network node is added within the local network managed by the mobile node, and the mobile network node requests an assignment of an address,

means for acquiring a new subsidiary home address from the home agent, and assigning the new subsidiary home address to the mobile network node; and
if the mobile network node is deleted from within the local network managed by the mobile node, and the mobile network node notifies returning the subsidiary home address,
means for returning the subsidiary home address to the home agent,
whereby the number of the subsidiary home addresses owned by the mobile node is dynamically increased or decreased according to the added or deleted mobile network nodes.

14. – 20. (Canceled)

21. (Currently Amended) A non-transitory computer readable recording medium comprising a
[[A]] control program for a mobile node in a mobile communication system composed of a home agent, the mobile node, and one or more correspondent nodes,

wherein said control program allows said mobile node to function as means for storing a preassigned representative home address, one or more preassigned subsidiary home addresses, and a care-of address temporarily assigned in a network in which the mobile node is currently present;

as means for making a registration request for joint information which relates the representative home address to all subsidiary home addresses and the care-of address to the home agent, each time the mobile node moves to other network, and is assigned a new care-of address; and

wherein said control program allows said mobile node to function as means for assigning any subsidiary home address to a plurality of mobile network nodes under said mobile node, and

if a packet destined for the subsidiary home address assigned to the mobile network nodes arrives, transferring this to the corresponding mobile network node.

22. (Currently Amended) The non-transitory computer readable recording medium comprising a control program for the mobile node according to claim 21,

wherein if a new mobile network node is added within a local network, and the mobile network node requests an assignment of an address, said control program allows said mobile node to function as means for assigning any unregistered subsidiary home address to the mobile network node, and requesting additional registration of this subsidiary home address to the home agent, and if the mobile network node is deleted from within the local network, and the mobile network node notifies returning the subsidiary home address, as means for requesting deregistration of this subsidiary home address to the home agent.

23. (Currently Amended) The non-transitory computer readable recording medium comprising a control program for the mobile node according to claim 21,

wherein, if a new mobile network node is added within a local network managed by the mobile node, and the mobile network node requests an assignment of an address, said control program allows said mobile node to function as means for acquiring a new subsidiary home address from the home agent, and assigning this to the mobile network node; and if the mobile network node is deleted from within the local network managed by said mobile node, and the mobile network node notifies returning the subsidiary home address,

as means for returning the subsidiary home address to the home agent.

24. – 30. (Canceled)